

Remarks/Arguments

Claims 1-8 were pending in the present application. Claim 1 has been amended. Claim 6 has been cancelled without prejudice or release of the subject matter to the public. Claims 1-5, 7 and 8 are presently before the Examiner for consideration. Support for the amendment to Claim 1 may at least be found in the claims as originally filed. No new subject matter has been added as a result of the amendments made herein.

Support for the amendment to claim 1 may at least be found at column 2, paragraph [0017] of Applicant's published application and claim 6 as originally filed, and in the specification, claims and figures as originally filed.

The Drawings have been objected to under 37 C.F.R. Section 1.121(d) because there are not formal drawings.

Claims 1-5 and 8 have been rejected under 35 U.S.C. Section 102(b) as being anticipated by Japanese Patent Application No. 62251403.

Claims 1-5 and 8 have been rejected under 35 U.S.C. Section 102(b) as being anticipated by United States Patent No. 4,648,796 to Maghenzani.

Claims 1-5 and 8 have been rejected under 35 U.S.C. Section 102(b) as being anticipated by United States Patent No. 4,836,750 to Modafferi et al.

Claims 1-5 and 8 have been rejected under 35 U.S.C. Section 102(b) as being anticipated by United States Patent No. 5,049,017 to Reynolds.

Claims 5 and 6 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Japan Patent No. 62251403.

Rejection under 37 C.F.R. Section 1.121(d)

The Examiner has rejected the drawings under 37 C.F.R. Section 1.121(d) because they are not formal drawings. In

response, Applicants submit herewith a copy of formal drawings for consideration in the present application. Applicant respectfully requests acceptance of the formal drawings provided and withdrawal of the rejection against the drawings under 37 C.F.R. Section 1.121(d).

Rejections under 35 U.S.C. Section 102(b)

The Examiner has rejected claims 1-5 and 8 under 35 U.S.C. Section 102(b) as being anticipated by Japanese Patent Application No. 62251403.

In framing his objection, the Examiner stated the following:

"In figures 1-8, Japan Patent teaches a disk 5, comprising: a disk bore 4 disposed about a centerline, said disk bore 4 having a bore width; and said disk bore comprising a contoured shape (part 7) having a contour depth, wherein said contoured shape is a smooth curve, wherein said smooth curve is a conic section, wherein said smooth curve is semi-circular, wherein said contoured shape comprises a blend radius."

(Office Action, page 3).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. Inc. v. Union Oil Co. of Calif.*, 2 U.S.P.Q.2D, 1051 (C.A.F.C., 1987). Japan Patent fails to expressly teach or inherently describe each and every element of Applicant's amended claim 1. Figures 1-10 of Japan Patent, including the Abstract and Constitution contained therein, fail to teach, "a disk bore further comprises a ratio of said contour depth divided by said bore width of between .04 and .12", as recited in Applicant's amended claim 1. As a result, Applicant's amended claim 1 is not anticipated by Japan Patent. Applicant's amended claim 1, and

claims 2-5 and 8 by virtue of their dependency upon claim 1, are patentable over Japan Patent Application No. 62251403. Applicant respectfully requests withdrawal of the rejection against claims 1-5 and 8 under 35 U.S.C. Section 102(b).

The Examiner has rejected claims 1-5 and 8 under 35 U.S.C. Section 102(b) as being anticipated by United States Patent No. 4,648,796 to Maghenzani.

In framing his objection, the Examiner stated the following:

"In figures 1 and 3, Maghenzani teaches a disk 6, comprising: a disk bore 4 disposed about a centerline, said disk bore (not numbered) having a bore width; and said disk bore comprising a contoured shape having a contour depth, wherein said contoured shape is a smooth curve, wherein said smooth curve is a conic section, wherein said smooth curve is semi-circular, wherein said contoured shape comprises a blend radius."

(Office Action, page 3).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. Inc. v. Union Oil Co. of Calif.*, 2 U.S.P.Q.2D, 1051 (C.A.F.C., 1987). Maghenzani fails to expressly teach or inherently describe each and every element of Applicant's amended claim 1. Figures 1 and 3 of Maghenzani, and its description contained therein, fail to teach, "a disk bore further comprises a ratio of said contour depth divided by said bore width of between .04 and .12", as recited in Applicant's amended claim 1. As a result, Applicant's amended claim 1 is not anticipated by Maghenzani. Applicant's amended claim 1, and claims 2-5 and 8 by virtue of their dependency upon claim 1, are patentable over United States Patent No. 4,648, 796 to Maghenzani. Applicant respectfully

requests withdrawal of the rejection against claims 1-5 and 8 under 35 U.S.C. Section 102(b).

The Examiner has rejected claims 1-5 and 8 under 35 U.S.C. Section 102(b) as being anticipated by United States Patent No. 4,836,750 to Modafferi et al.

In framing his objection, the Examiner stated the following:

"In figure 1, Modafferi et al. teach a disk 18, comprising: a disk bore (not numbered) disposed about a centerline 30, said disk bore having a bore width; and said disk bore comprising a contoured shape having a contour depth, wherein said contoured shape is a smooth curve, wherein said smooth curve is a conic section, wherein said smooth curve is semi-circular, wherein said contoured shape comprises a blend radius."

(Office Action, page 4).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. Inc. v. Union Oil Co. of Calif.*, 2 U.S.P.Q.2D, 1051 (C.A.F.C., 1987). Modafferi fails to expressly teach or inherently describe each and every element of Applicant's amended claim 1. Figure 1 of Modafferi, and its description contained therein, fails to teach, "a disk bore further comprises a ratio of said contour depth divided by said bore width of between .04 and .12", as recited in Applicant's amended claim 1. As a result, Applicant's amended claim 1 is not anticipated by Modafferi. Applicant's amended claim 1, and claims 2-5 and 8 by virtue of their dependency upon claim 1, are patentable over United States Patent No. 4,836,750 to Modafferi. Applicant respectfully requests withdrawal of the rejection against claims 1-5 and 8 under 35 U.S.C. Section 102(b).

The Examiner has rejected claims 1-5 and 8 under 35 U.S.C. Section 102(b) as being anticipated by United States Patent No. 5,049,017 to Reynolds.

In framing his objection, the Examiner stated the following:

"In figure 3, Reynolds teaches a disk 14, comprising: a disk bore 38 disposed about a centerline, said disk bore 38 having a bore width; and said disk bore comprising a contoured shape having a contour depth, wherein said contoured shape is a smooth curve, wherein said smooth curve is a conic section, wherein said smooth curve is semi-circular, wherein said contoured shape comprises a blend radius."

(Office Action, page 3).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. Inc. v. Union Oil Co. of Calif.*, 2 U.S.P.Q.2D, 1051 (C.A.F.C., 1987). Reynolds fails to expressly teach or inherently describe each and every element of Applicant's amended claim 1. Figure 3 of Reynolds, and its description contained therein, fails to teach, "a disk bore further comprises a ratio of said contour depth divided by said bore width of between .04 and .12", as recited in Applicant's amended claim 1. As a result, Applicant's amended claim 1 is not anticipated by Reynolds. Applicant's amended claim 1, and claims 2-5, 7 and 8 by virtue of their dependency upon claim 1, are patentable over United States Patent No. 5,049,017. Applicant respectfully requests withdrawal of the rejection against claims 1-5 and 8 under 35 U.S.C. Section 102(b).

Rejection under 35 U.S.C. Section 103(a)

The Examiner has rejected claims 5 and 6 under 35 U.S.C. Section 103(a) as being unpatentable over Japan Patent No. 62251403.

In framing his objection, the Examiner stated the following:

"Japan Patent discloses all the claimed subject matter except it does not disclose expressly a ratio of said contour depth divided by said bore width is between .04 and .12 and said ratio is greater than .05.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to make a disk bore with a ratio of contour depth divided by said bore width between .04 and .12 and said ratio is greater than .05 because Applicant has not disclosed that having a ratio of contour depth divided by said bore width between .04 and .12 and said ratio is greater than .05 provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with a ratio of contour depth divided by said bore width of the Japan Patent for the purpose of suppressing the concentration of stress in the tangential direction.

Therefore, it would have been an obvious matter of design choice to modify Japan Patent to obtain the invention as specified in claims 5 and 6."

(Office Action, page 5).

A proper analysis under 35 U.S.C. § 103 requires, inter alia, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991) (citing *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988)). Both the

suggestion and the reasonable expectation of success "must be founded in the prior art, not in the applicant's disclosure." *Id.*

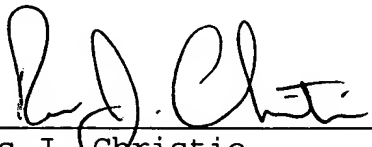
Contrary to the Examiner's assertion, Applicant discloses several times in the present patent application that the recited element "wherein said disk bore further comprises a ratio of said contour depth divided by said bore width of between .04 and .12" does provide an advantage (See col. 2, par. [0014], ll. 8-10, par. [0017], ll. 1-7; col. 3, par. [0019], ll. 1-6), is used for a particular purpose (See col. 1, par. [0002]; col. 2, par. [0014], ll. 8-10, par. [0017], ll. 1-7) and is the solution (See col. 3, par. [0019], ll. 1-6) to a stated problem (See col. 1, par. [0004]-[0007]).

Applicant contends that the recited element "wherein said disk bore further comprises a ratio of said contour depth divided by said bore width of between .04 and .12" of Applicant's amended claim 1 is not "an obvious matter of design choice to a person of ordinary skill in the art". The Figures, Abstract and Constitution of the aforementioned Japan Patent Application fails to teach such a ratio of the contour depth to the bore width and, furthermore, neither motivates nor suggests to one of ordinary skill in the art to experiment and derive such a design having the ratio claimed in Applicant's amended claim 1. Applicant contends that both the suggestion and reasonable expectation of success of the aforementioned ratio applied to a contoured disk bore construction and design is found only in Applicant's disclosure and claims of the present application. As a result, Applicant's claims 5 and 6 are patentable over Japan Patent Application No. 62251403.

Should the Director determine that a fee is due, he is hereby authorized to charge said fee to Deposit Account No. 21-0279.

Respectfully submitted,

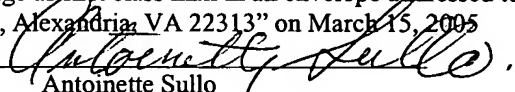
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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: "Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on March 15, 2005



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